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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/798,508

Filing Date: March 11, 2004

Appellant(s): FARRETT, PETER W.

Joseph J. Christian
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 06/25/07 appealing from the Office action
mailed 10/31/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6006225	BOWMAN	12-1999
20040260534	PAK	12-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections – 35 USC § 102

01. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

02. **Claims 1 – 3, 6 – 9, and 11 – 13** are rejected under 35 U.S.C. 102(b) as being anticipated by **Bowman et al. (US Patent 6,006,225)**.

Consider **claim 1**, Bowman et al. clearly show a method for searching a database comprising steps of:

a web server, which processes user requests, received from user computers via the Internet (read as inputting a search term) (column 5 lines 1 – 4);

including queries submitted by users to search the on-line catalog for products (read as beginning a search at a random location in the knowledge base to identify the match answer) (column 5 lines 4 – 7);

the query server searches a bibliographic database that includes information about titles, authors, publishers, subject descriptions etc. and that the information is arranged within fields (read as determining a match answer category from the match answer) (column 5 lines 11 – 25);

the generation process then maps each query term found in a query and its prefix to other terms used with that particular query. A correlation score is maintained for each related term in the mapping, and is stored in a table (read as determining a look-up association based on the match answer category and a search history table, inputting the look-up association into an alternative answer probability table to identify an alternative answer category) (column 10 lines 25 – 33, figures 5A, 5B);

and that successive searches are preformed on the modified query (read as performing a secondary search at a second random location in the knowledge base to find the alternative answer that only belongs to the alternative answer category) (column 13 lines 63 – 65, column 14 lines 1 – 12, Figure 5B, 9).

Consider **claim 2**, and as applied to claim 1 above, Bowman et al. clearly show a method such that the query server includes a related term selection process which identifies related query terms based on query term correlation data stored in a correlation table (read as the match answer category and the alternative answer category form a category answer association, and the search history comprises a table of previously determined category answer associations) (column 5 lines 26 – 32).

Consider **claim 3**, and as applied to claim 2 above, Bowman et al. clearly show a method such that the search engine uses the query term correlation data stored in the correlation table to select the related terms that best match the user's query (read as the alternative answer probability table is determined from the search history table) (column 6 lines 19 – 22, Figures 5A, 5B).

Consider **claim 6**, Bowman et al. clearly show a user preference search system comprising:

A web server application, which processes queries submitted by users to search the on-line catalog for products (read as a search engine that performs a first search at a first location in the knowledge base and returns a match answer) (column 5 lines 4 – 7);

successive searches are preformed on the modified query (read as performs a second search at a second location in the knowledge base to find an alternative answer, wherein the alternative answer belongs to an alternative answer category) (column 13 lines 63 – 65, column 14 lines 1 – 12, Figure 5B, 9);

the generation process then maps each query term found in a query and its prefix to other terms used with that particular query. A correlation score is maintained for each related term in the mapping, and is stored in a table (read as inputting a look-up association into an alternative answer probability table, wherein the look-up association is based on a search history table) (column 10 lines 25 – 33, figures 5A, 5B);

a query server includes a related term selection process that identifies related query terms based on query term correlation data stored in a correlation table (read as a table update system that updates the alternative answer probability table based on a table of previously determined category answer associations) (column 5 lines 26 – 32).

Consider **claim 7**, and as applied to **claim 6 above**, Bowman et al. clearly show a user preference search system such that the user submits a search to search part of a

database for a single item or multiple items (read as the first and second locations are determined randomly) (column 5 lines 45 – 67).

Consider **claim 8**, and **as applied to claim 6 above**, Bowman et al. clearly show a user preference search system such that a correlation score is maintained for each related term in the mapping, and is stored in a table (read as the look-up association is determined from a search history) (column 10 lines 25 – 33, figures 5A, 5B).

Consider **claim 9**, and **as applied to claim 7 above**, Bowman et al. clearly show a user preference search system such that the query server includes a related term selection process which identifies related query terms based on query term correlation data stored in a correlation table (read as each previously determined category answer association comprises a match answer category and an alternative answer category) (column 5 lines 26 – 32).

Consider **claim 11**, Bowman et al. clearly show a program product for searching a database comprising steps of:

a web server which processes user requests received from user computers via the Internet (read as means for inputting a search term) (column 5 lines 1 – 4);

including queries submitted by users to search the on-line catalog for products (read as means for beginning a search at a random location in the knowledge base to identify the match answer) (column 5 lines 4 – 7);

the query server searches a bibliographic database that includes information about titles, authors, publishers, subject descriptions etc. and that the information is

arranged within fields (read as means for selecting a match answer category from the match answer) (column 5 lines 11 – 25);

the generation process then maps each query term found in a query and its prefix to other terms used with that particular query. A correlation score is maintained for each related term in the mapping, and is stored in a table (read as means for determining a look-up association based on the match answer category and a search history table, inputting the look-up association into an alternative answer probability table to identify an alternative answer category) (column 10 lines 25 – 33, figures 5A, 5B);

and that successive searches are preformed on the modified query (read as means for performing a secondary search at a second random location in the knowledge base to find the alternative answer that only belongs to the alternative answer category) (column 13 lines 63 – 65, column 14 lines 1 – 12, Figure 5B, 9).

Consider claim 12, and as applied to claim 11 above, Bowman et al. clearly show a method such that the query server includes a related term selection process which identifies related query terms based on query term correlation data stored in a correlation table (read as the match answer category and the alternative answer category form a category answer association, and the search history comprises a table of previously determined category answer associations) (column 5 lines 26 – 32).

Consider claim 13, and as applied to claim 11 above, Bowman et al. clearly show a method such that the search engine uses the query term correlation data stored in the correlation table to select the related terms that best match the user's query (read

as the alternative answer probability table is determined from the search history table)
(column 6 lines 19 – 22, Figures 5A, 5B).

Claim Rejections - 35 USC § 103

03. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

04. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

05. **Claims 4 – 5, 10, and 14 – 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Bowman et al. (US Patent 6,006,225)** in view of **Pak et al. (US PGPub 2004/0260534)**.

Consider **claims 4 – 5, and as applied to claim 3 above**, Bowman et al. clearly show the claimed invention except that natural language is used. Pak et al. however, clearly show a method to search a variety of types of documents for material related to concepts expressed in natural language text (read as the search term is extracted from

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a natural language input) (paragraph [0019], [0039]), and such that the data in the knowledge base can include solutions, resolutions, and pre-defined answer (read as the match answer and alternative answer are presented in natural language format (paragraph [0021])).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the natural language usage taught by Pak et al. into the search method taught by Bowman et al. for the purpose of allowing the user to input natural language for searching.

Consider **claim 10**, Bowman et al. clearly show the claimed invention except that a natural language parser is used. Pak et al. however, clearly show a system wherein the invention analyzes the natural language text (read as a natural language parser for receiving natural commands) (paragraph [0036]) to determine an underlying concept (read as generating the search term.) (paragraph [0036]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the natural language parser taught by Pak et al. into the search system taught by Bowman et al. for the purpose of allowing the user to input natural language for searching.

Consider **claims 14 – 15**, and as applied to claim 13 above, Bowman et al. clearly show the claimed invention except that natural language is used. Pak et al. however, clearly show a program product to search a variety of types of documents for material related to concepts expressed in natural language text (read as the search term is extracted from a natural language input) (paragraph [0019], [0039]), and such

that the data in the knowledge base can include solutions, resolutions, and pre-defined answer (read as the match answer and alternative answer are presented in natural language format (paragraph [0021]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the natural language usage taught by Pak et al. into the search method taught by Bowman et al. for the purpose of allowing the user to input natural language for searching.

(10) Response to Argument

Appellant argues that Bowman does not disclose inputting a determined look-up association into any type of probability table. More specifically, Appellant argues that Bowman does not disclose "inputting the look-up association into an alternative answer probability table to identify an alternative answer category, wherein the look-up association is determined based on the match answer category and a search history table". Examiner respectfully disagrees. Bowman discloses, among other things, using query term correlation data to refine a query submission, so as to increase the effectiveness of the query, in order to produce successful query results. A database is used to calculate and store a 'correlation score', representing a mapping of related query terms. This 'correlation score' is created in response to user query submissions. Therefore, when a user submits a query, the user can have his query submission go through a refinement process, as correlation data is used to determine alternative potential queries, which are more likely to retrieve desired results (see column 10, lines

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25 – 67). Furthermore, Bowman discloses that one embodiment “might give weighted scores for intersecting terms” (column 12, lines 60 – 67). This allows for the query submission to be flexible, so that the alternative query creation process can be modified to help a user retrieve better search results. The query term correlation data is therefore used as a means to probabilistically locate query search results.

In other words, Bowman’s teachings disclose the ability for search queries to be modified, based on historical user submissions. A user of Bowman would first enter a query for submission. Then, search results would be returned to the user, along side new queries that the user could submit. These new queries were obtained through the correlation process described above, as well as through the entirety of Bowman. Contrary to the Appellant’s arguments, this reads on the “look-up association” and a “search history table” limitations of the Appellant’s independent claim 1.

Appellant further argues that Bowman does not disclose performing a secondary search, via a look-up association into an alternative answer probability table, to obtain a alternative answer. Examiner respectfully disagrees. The whole purpose of the teachings of Bowman is to refine a first query, into a second query, in order to obtain different, and hopefully more accurate results. In fact, the entire disclosure of Bowman relies upon this second search, as the focus of his invention is to return more and better results. As can be seen in Figure 5A and 5B, Bowman discloses how the correlation data is used to determine related terms. Figure 5A shows the correlation data before a user submission, and Figure 5B shows the (modified) correlation data after a user query submission. It can be seen that the correlation data is dynamic, and results in different

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terms having stronger association bonds with other words. Directing attention to Figure 9, it can be seen at 910 that the correlation data and related terms are returned to the system, for a user to access. Bowman takes his invention a step further in that it allows for the user to decide which, if any, modified query to use. These modified queries would obtain different, and expectedly more accurate results for the user. Bowman also teaches that these modified queries can be ranked based on the correlation data, such that the query having the highest correlation score can be listed first, and the rest can be listed in descending order.

Therefore, the Examiner asserts that Bowman discloses all the featured limitations of the Appellant's application, and that the rejections should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Christopher J Raab



Conferees:

Hosain Alam



Supervisory Patent Examiner

Mohammad Ali



Supervisory Patent Examiner